

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/25144

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A01H 5/00; C07K 5/00; C07H 21/02; C12N 5/14, 15/11, 15/82, 87.
 US CL : 435/419; 530/300; 536/23.1, 23.4; 800/278, 288, 298.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 435/419; 530/300; 536/23.1, 23.4; 800/278, 288, 298.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 WEST; In-house Sequence databases -see enclosed Sequence Search print-out results

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | PAWLOWSKI, et al. In Vitro expression of actinorhizal nodulin AgNOD-GHRP and demonstration of its toxicity to E. coli. , pages 423-428, December 1996, (in) Stacey, et al (eds.) The Biology of Plant-Microbe Interactions: Proceedings of the 8th international Symposium on molecular plant-microbe interactions, see pages 423 and 424. | 5-9 |
| X | PAWLOWSKI, et al. A nodule-specific gene family from Alnus glutinosa encodes glycine- and histidine-rich proteins expressed in the early stages of actinorhizal nodule development. Molecular Plant-Microbe Interactions, 1997, Vol. 10, No. 5, pages 656-664, especially pages 656, 658, 662, and 663. | 5-9 |
| X | DOBRITSA, et al. Novel Nodule-specific glycine- and histidine-rich proteins expressed in the zone of infection of actinorhizal nodules may be multimeric metal-binding proteins. Current Plant Science and Biotechnology in agriculture, 2000, Vol 38, pages 463-464, see entire document. | 5-9 |
| X | NCBI database for nucleotide sequences, National center for Biotechnology Information, NIH (Bethesda, MD, USA) TWIGG, P. G. Accession number U69156, 1993. 100% identical to the polynucleotide encoding SEQ ID NO: 1. | 6-11 |



Further documents are listed in the continuation of Box C.



See patent family annex.

| | | |
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| * | Special categories of cited documents: | |
| "A" | document defining the general state of the art which is not considered to be of particular relevance | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "E" | earlier application or patent published on or after the international filing date | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "L" | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "O" | document referring to an oral disclosure, use, exhibition or other means | "&" document member of the same patent family |
| "P" | document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search

30 June 2005 (30.06.2005)

Date of mailing of the international search report

10 AUG 2005

Name and mailing address of the ISA/US
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 Commissioner for Patents

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INTERNATIONAL SEARCH REPORTInternational application No.
PCT/US04/25144**C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X ✓ | NCBI database for nucleotide sequences, National center for Biotechnology Information, NIH (Bethesda, MD, USA) TWIGG, P. G. Accession number AAD00171, 1993. 100% to SEQ ID NO: 1. | 5-11 |